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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,510	03/12/2004	ChoonHoe Koh	STL11595	1740

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EXAMINER

OLSON, JASON C

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/799,510	Applicant(s) KOH ET AL.	
	Examiner Jason C. Olson	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 15, 23, 25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 16-22, 24, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 13, 14 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Claim 25 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 05/25/05.

Claim Objections

Claim 7 is objected to because of the following reasons: method claim dependent from an apparatus claim. Appropriate correction is required.

Claim 24 is objected to because of the following reasons: syntax error. Claim 24 recites the limitation “step ©”. The examiner suggests that the limitation be changed to recite, “step (c)” and will examine the claim as such. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9, 11, 12, 16-22, 24, 28, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Heydt et al. (US 6,876,510), hereafter Heydt.

Regarding claim 1, Heydt teaches an actuator able to support a head adjacent to a rotatable disc (see figure 1, items 110, 112, and 108); and a position detector constructed and arranged to determine a head's former stationary position relative to the disc based on a latter motion pattern of the actuator (see col. 4, ln. 66-col. 5, ln. 9 and col. 5, ln. 34-col. 6, ln. 15).

Regarding claim 2, Heydt teaches a first portion being a voice coil (see figure 2, item 14); and a second portion operatively coupled to the voice coil and rigidly mounted to a controller board (see figure 2, item 136).

Regarding claim 3, Heydt teaches a latch configured to urge the actuator toward a predetermined position (see col. 3, ln. 55-62).

Regarding claim 4, Heydt teaches at least one crash stop configured to limit a range of motion of the actuator (see figure 1, item 336).

Regarding claim 5, Heydt teaches the head's former stationary position consists of one Boolean value (see figure 6, ln. 8-15 and figure 4, item 220).

Regarding claim 6, Heydt teaches the position detector includes a processor configured to receive several voltage measurements and to derive the head's former stationary position partly based on an arithmetic combination of the measurements (see col. 4, ln. 40-43 and col. 5, ln. 50-55).

Regarding claim 7, Heydt teaches spinning up the disc (see col. 5, ln. 10-15); detecting the latter motion pattern after the spin-up (see col. 5, ln. 34-col. 6, ln. 7); and generating a digital indication of where the head was just before the spin-up partly based on the latter motion pattern (see col. 6, ln. 9-15).

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Regarding claim 8, Heydt teaches the actuator supports a plurality of additional heads adjacent at least one additional disc, the discs being mounted for co-rotation on a disc stack (see col. 3, ln. 36-42).

Regarding claim 9, Heydt teaches the actuator includes a voice coil configured to provide a voltage to the position detector that includes a back-electromotive force component indicative of a movement of the voice coil across a magnetic field (see col. 5, ln. 50-col. 6, ln. 3).

Regarding claims 11, 12, 16-21, 28, and 29: method claims 11, 12, 16-21, 28, and 29 are drawn to the method of using the corresponding apparatus claimed in claims 1-9. Therefore method claims 11, 12, 16-21, 28, and 29 correspond to apparatus claims 1-9 and are rejected for the same reasons of anticipation as used above.

Regarding claim 22, Heydt teaches generating a scalar measure of how far the head was from a reference position; and generating the digital indication as a Boolean value indicating whether the scalar measure exceeds a predetermined threshold (see col. 6, ln. 16-22).

Regarding claim 24, Heydt teaches whether to search for a failure mechanism on a surface of the disc based on the digital indication (see col. 6, ln. 16-22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heydt and Kudo et al. (US 5,625,514) hereafter Kudo.

Regarding claim 10 Heydt teaches all the limitations of claim 9 above but fail to disclose the position detector includes an analog-to-digital converter operatively coupled across the voice coil and configured to sample the voltage provided by the voice coil. However, Hudo is relied upon to teach the position detector includes an analog-to-digital converter operatively coupled across the voice coil and configured to sample the voltage provided by the voice coil (see col. 9, ln. 56-62 of Kudo). It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve upon position detection of Keydt by applying the teaching of an analog to digital converter coupled across the voice coil motor as taught by Kudo for the purpose of as stated in column 9, lines 15-27 of Kudo.

Allowable Subject Matter

Claims 13, 14, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason C. Olson whose telephone number is (571)272-7560. The examiner can normally be reached on Monday thru Thursday 7:30-5:30; alternate Fridays.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Hudspeth can be reached on (571)272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCO

August 18, 2005



DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
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